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Supplementary appendix

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	Considerations
Policy	
Screening tools	**Develop affordable screening tools that integrate TB and COVID-19 testing** and/or registration for all persons with symptoms of TB. • In particular, TB screening checklists and registers for triaging patients should include symptoms to cover COVID-19. • A screening algorithm for simultaneous testing should also be developed. • Consider whether innovations developed for screening COVID-19 (e.g. contact tracing apps, symptom screening apps) could be leveraged as part of simultaneous testing.
Management and coordination	**Coordinate the simultaneous testing response with all stakeholders to ensure the smooth roll out of simultaneous testing and optimization of resources.** Key stakeholders include national TB and COVID-19 disease programmes, NGOs, laboratory services, pharmacy chains, and the private sector. Consider whether sample referral systems established for COVID-19 could be leveraged for TB.
Policy guidance	Ensure processes and resources are in place to **regularly update policy and operational guidance** for simultaneous testing as new information becomes available and if the COVID-19 situation in the setting changes.
Priority populations	Where resources are limited, testing should focus on populations at greater risk for both infections (e.g. newly diagnosed TB or COVID-19 patients with comorbidities, people with diabetes and older people).
Reporting/disease surveillance	**Consider integrating disease surveillance for TB and COVID-19** to simplify and improve reporting for both diseases. For example, this could involve daily/weekly notification of TB cases along with COVID-19.
Operational	
Expansion of testing services	Plan for **expanded testing services to operationalize simultaneous testing and catch-up testing for TB** to mitigate previous disruptions to TB testing. • Specific considerations will depend on the testing options deployed (e.g. multiplex testing, rapid point-of-care tests, chest X-rays), and may include relocation or procurement of additional instruments. • Recruitment and cross-training of staff will be required to enable staff to adequately support both the TB and COVID-19 programmes. • Consider expanding TB and COVID-19 testing to community/decentralized locations especially during periods of lockdown.
Simultaneous testing facilities	Ensure **that safe sputum collection sites are available at COVID-19 clinics** and that **PPE for safe collection of COVID-19 samples is available at TB clinics**.
Optimization of testing capacity	**Consider diagnostic network optimization approaches** to optimize testing capacity in terms of placement of testing sites and instruments, and sample referral networks.
Utilization of electronic data reporting/platforms	• Leverage **electronic data reporting/platforms with inbuilt connectivity** to streamline reporting of the testing approaches. • **Update COVID-19 symptom screening materials to include differential diagnosis** of TB and other respiratory diseases. • Use **integrated surveillance tools for mapping TB and COVID-19 hotspots** where feasible.

	• Consider deployment of solutions like **rapid test reader apps** to allow accurate interpretation of rapid antigen test results with simultaneous transmission of results to the country database.
Contact tracing	Efforts should be made to **integrate COVID-19 testing into TB contact testing checklists and registers, and vice versa**. Resources may be needed to recruit additional community health workers and for cross-training of health workers for both TB and COVID-19 sample collection and testing.
Active case finding	• **Integrate COVID-19 into ongoing and planned active TB case finding initiatives.** For example, this could include using existing TB mobile vans for joint screening, providing TB screening at mobile COVID-19 vaccination clinics, and screening in congregate settings such as slums. • Community-level initiatives are also recommended to **maximize outreach and awareness generation** on how to minimize the risk of both TB and COVID-19 and signs and symptoms of infection.
Technical	
Diagnostic approach	**Integrated testing** for TB and COVID-19 on available **multiplex testing platforms** would be ideal. **Facilities without NAAT/multiplex platforms should strongly consider other options for the simultaneous testing of COVID-19 and TB such as:** • On-site COVID-19 testing using **rapid antigen tests with referral of TB samples to a laboratory.** • **Chest X-ray** (especially portable systems) potentially combined with computer-aided diagnosis (CAD) software, with careful consideration of infection control. People with findings suggestive of TB and/or COVID-19 should be referred for confirmatory testing.
Laboratory systems for COVID-19 and TB testing	**Consider which laboratory systems are available and most suitable for simultaneous testing** of COVID-19 and TB in the health system. Available laboratory systems that can perform both COVID-19 and TB testing include: • Cepheid's GeneXpert® Systems • Molbio Diagnostics' Truenat™ • Roche cobas® 6800/8800 Systems • Abbott *m*2000 RealTi*me* System. The first tool for the simultaneous testing of COVID-19 and TB in a single assay is in development by Molbio Diagnostics, India.
Sample collection	Validation of a **single sample type** for both TB and COVID-19 testing would be ideal to increase ease and uptake of simultaneous testing. Otherwise, **samples for TB and COVID-19 should be collected in the same visit**. The type of samples required will depend on the testing algorithm and types of tests employed. Testing for SARS-CoV-2 with NAAT or rapid antigen tests

	typically requires nasopharyngeal/nasal/oral swabs, while testing for *Mycobacterium tuberculosis* typically requires a sputum sample.
Training	**Train COVID-19 programme staff to consider TB, and collect samples and conduct tests for TB on those suspected of having COVID-19, and vice versa**. • As this requires extra care and precaution, personnel must be appropriately trained in infection control methods and provided appropriate PPE. • Periodic trainings for providers in public and private sectors on updated scientific data and guidelines is also recommended.

Abbreviations: NAAT, nucleic acid amplification test; NGO, non-governmental organization; PPE, personal protective equipment; TB, tuberculosis.

***Table*: Considerations for the implementation of tuberculosis and COVID-19 simultaneous testing**